Claims Appendix

1. An article, wherein the article is a bottle comprising an annular portion comprising a molded body formed from a plastic composition comprising a plastic having an index of refraction of at least 1.4 and a photoluminescent material, wherein the annular portion has a graphic image formed as cuts or protrusions, or both, in the plastic composition on a surface of the molded body thereof to provide a luminescent visual effect in the shape of the graphic image as a result of the photoluminescent material that is part of the plastic composition.

2. The article of claim 1, wherein the photoluminescent material is an organic fluorescent dye.

3. The article of claim 2, wherein the fluorescent dye is included at a concentration of 1 % or less by weight of the plastic.

4. The article of claim 3, wherein the fluorescent dye provides a blue or violet visual effect and the fluorescent dye is included at a concentration of 0.5 to 0.001% by weight.

5. The article of claim 4, wherein the fluorescent dye is included at a concentration of 0.3 to 0.1% by weight.

6. The article of claim 4, wherein the fluorescent dye is included at a concentration of 0.1% to 0.005% by weight.

7. The article of claim 3, wherein the fluorescent dye provides a red, orange or green visual effect and the fluorescent dye is included at a concentration of less than 0.0005% by weight.

8. The article of claim 7, wherein the fluorescent dye is included at a concentration of 0.0001% to 0.0003% by weight.

9. The article of claim 2, wherein the fluorescent dye is selected from the group consisting of perylene derivatives, anthracene derivatives, indigoid and thioindigoid derivatives, imidazole derivatives, naphtalimide derivatives, xanthenes, thioxanthenes, coumarins, rhodamines, (2,5-bis[5-tert-butyl-2-benzoxazolyl]thiophene) and derivatives thereof.

10. The article of claim 9, wherein the fluorescent dye is included at a concentration of 1 % or less by weight of the plastic.

11. The article of claim 2, wherein the fluorescent dye has a quantum yield of 0.7 or greater.

12. The article of claim 14, wherein the fluorescent dye has a quantum yield of 0.9 or greater.

13. The article of claim 2, wherein the graphic images is formed from cuts having a depth of from 0.5 to 3 mm or protrusions having a height of from 0.5 to 5 mm or combinations thereof.

14. The article of claim 1, wherein the plastic is polycarbonate.

15. The article of claim 14, wherein the photoluminescent material is an organic fluorescent dye.

16. The article of claim 15, wherein the fluorescent dye is included at a concentration of 1 % or less by weight of the polycarbonate.

17. The article of claim 16, wherein the fluorescent dye provides a blue or violet visual effect and the fluorescent dye is included at a concentration of 0.5 to 0.001% by weight.

18. The article of claim 17, wherein the fluorescent dye is included at a concentration of 0.3 to 0.1% by weight.

19. The article of claim 17, wherein the fluorescent dye is included at a concentration of 0.1 to 0.005% by weight.

20. The article of claim 16, wherein the fluorescent dye provides a red, orange or green visual effect and the fluorescent dye is included at a concentration of less than 0.0005% by weight.

21. The article of claim 20, wherein the fluorescent dye is included at a concentration of 0.0001% to 0.0003% by weight.

22. The article of claim 15, wherein the fluorescent dye is selected from the group consisting of perylene derivatives, anthracene derivatives, indigoid and thioindigoid derivatives, imidazole derivatives, naphtalimide derivatives, xanthenes, thioxanthenes, coumarins, rhodamines, (2,5-bis[5-tert-butyl-2-benzoxazolyl]thiophene) and derivatives thereof.

23. The article of claim 22, wherein the fluorescent dye is included at a concentration of 1 % or less by weight of the polycarbonate.

28. The article of claim 1, wherein the article is a bottle having a bottom portion and a sealable top portion.

29. The article of claim 1, wherein article is a bottle and the bottle has an integrally-molded

handle.

30. The article of claim 1, wherein the photoluminescent material is a fluorescent dye.

31. The article of claim 30, wherein the plastic is a polycarbonate.

32. The article of claim 31, wherein the fluorescent dye is selected from the group consisting of perylene derivatives, anthracene derivatives, indigoid and thioindigoid derivatives, imidazole derivatives, naphtalimide derivatives, xanthenes, thioxanthenes, coumarins, rhodamines, (2,5-bis[5-tert-butyl-2-benzoxazolyl]thiophene) and derivatives thereof.

33. The article of claim 32, wherein the fluorescent dye included in the article is included at a concentration of 1 % or less by weight of the plastic.

34. The article of claim 32, wherein the fluorescent dye in the article provides a blue or violet visual effect and the fluorescent dye is included at a concentration of 0.5 to 0.001% by weight.

35. The article of claim 34, wherein the fluorescent dye in the article is included at a concentration of 0.3 to 0.1% by weight.

36. The article of claim 34, wherein the fluorescent dye in the article is included at a concentration of 0.1 to 0.005% by weight.

37. The article of claim 32, wherein the fluorescent dye in the article provides a red, orange or green visual effect and the fluorescent dye is included at a concentration of less than 0.0005% by weight.

38. The article of claim 37, wherein the fluorescent dye in the article is included at a concentration of 0.0001% to 0.0003% by weight.

39. The article of claim 1, wherein the graphic image is formed from cuts having a depth of from 0.5 to 3 mm or protrusions having a height of from 0.5 to 5 mm or combinations thereof.

40. The article of claim 1, wherein the photoluminescent material is a fluorescent dye that has a quantum yield of 0.7 or greater.

41. The article of claim 40, wherein the fluorescent dye has a quantum yield of 0.9 or greater.

78. The article of claim 1, wherein graphic image includes cuts in the plastic composition extending into the surface of the molded body.

79. The article of claim 2, wherein the graphic images includes cuts in the plastic composition having a depth of from 0.5 to 3 mm.

80. The article of claim 1, wherein the graphic images includes cuts in the plastic composition having a depth of from 0.5 to 3 mm.